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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2672	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	10/789,603	GERY ET AL.	
	Examiner	Art Unit	
	Dan Washburn	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/1/2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ward et al. (US 6,670,964).

As to claims 1 and 2, Ward describes a method for enabling an application program configured for use with a display device having a lower pixel density to utilize a display device having a higher pixel density, the method comprising: receiving from an application program a call directed toward an application programming interface for performing a screen input or output function, the call including one or more parameters; in response to receiving the call, determining whether the application program is configured for use with the display device having the lower pixel density or the display

device having a higher pixel density; in response to determining that the application program is configured for use with the display device having the lower pixel density, scaling the parameters for the higher pixel density display device and calling the application programming interface with the scaled parameters; and calling the application programming interface without scaling the original parameters in response to determining that the application program is configured for use with the display device having a higher pixel density. For example, Ward describes a method and apparatus that looks at the required resolution of a system, which is also considered an operating system or application program, and compares it to the resolution of a display device. If the resolution of the display device is not the same as the resolution of the system then the apparatus scales the display parameters of the system so that the image is presented on the entire screen of the display device column 2 lines 17-31. Ward discloses, as one example, a system that can be presented on a display device with a maximum resolution of 1024x768 pixels. The problem is the system has an attached display device that has a resolution of 1280x1024 pixels. The system, or application program, was originally designed to operate on a display device with a lower pixel density as the system was designed for a standard size monitor with a maximum resolution of 1024x768. Ward's invention allows the system to operate on a display device with a higher pixel density as newer standard size monitors have a resolution of 1280x1024, which means the same size monitor has a higher pixel density column 5 lines 7-15. Ward offers an example scenario where the active mode resolution of the program is 640x480 pixels, but the native resolution of the display device is fixed at

1024x768. Using Ward's invention the system is able to scale the 640x768 pixel display so that it fits the 1024x768 display, which makes the system compatible with lower pixel density display devices as well as higher pixel density display devices column 15 lines 43-58. Figure 1 describes computer-display system 100 with automatic resolution detection capability. System 100 includes system graphics upscale and/or centering logic block 304. System graphics upscale and/or centering logic block 304 receives a call from the application program; in this case the display resolution block 302 initiates the call that communicates the required display resolution. The call is directed at the application programming interface between the system and the monitor, such as video controller 213 of Figure 18, but it is intercepted by the computer-display system 100. System graphics upscale and/or centering logic block 304 passes the required resolution information on to system output resolution block 308, which sends the information to mode detection and scaler control block 312. Mode detection and scaler control block 312 receives the call and determines if the system is configured for use with a display device that has a lower pixel density than the currently attached display device or if the system is configured for use with the higher pixel density of the currently attached display device. If the native resolution of the display device is the same as the display resolution of the system, then all the parameters sent from the system to the application programming interface are sent through unmodified, but if the scaler control block 312 determines that the native resolution of the monitor is different than the resolution of the system, then scale factor control data is sent to the monitor side upscale and/or centering logic and buffers block 314, which scales the low resolution

image data before it is sent to the display device so the image spans the full screen of the high resolution display device column 2 lines 53-67 and column 3 lines 1-33.

With regard to claims 7 and 8, Ward describes a computer-controlled apparatus and a computer readable medium having computer-executable instructions stored thereon which, when executed by a computer, will cause the computer to perform the method described in the rejection of claim 1. For example, Ward offers computer-display system 100 of Figure 1, which is a logic circuit, also considered a computer-controlled apparatus, and comprises a computer readable medium having computer-executable instructions stored thereon.

Concerning claim 9, Ward discloses a computer system configured to enable an application program created for use with a display device having a lower pixel density to utilize a display device having a higher pixel density, the computer system comprising: a central processing unit; a display device having a higher pixel density; and a memory operative to store an operating system for execution on the central processing unit, an application program for execution on the operating system and created for use with a display device having a lower pixel density, an application programming interface for performing input and output operations to the display device, and a translation layer for intercepting calls by the application program to the application programming interface, for scaling the calls to the display device and for calling the application programming interface with the scaled parameters. For example, Ward offers Figure 18, which illustrates a computer system configured to enable an application program created for use with a display device having a lower pixel density to utilize a display device having a

higher pixel density, the computer system comprising: CPU 200, flat panel display 215, memory 204, which is operative to store an operating system, and which includes an application program for execution on the operating system and created for use with a display device having a lower pixel density column 5 lines 8-15, an application programming interface for performing input and output operations to the display device, in this case the video controller 213, and a translation layer for intercepting calls by the application program to the application programming interface, for scaling the calls to the display device as needed, and for calling the application programming interface with either the scaled parameters or the original parameters, in this case computer-display system 100.

With regard to claim 10, Ward describes a computer system wherein the translation layer is further operative to determine whether the application program is configured for use with the display device having a higher pixel density and to call the application programming interface without scaling the parameters in response to determining that the application program is configured for use with the display device having a higher pixel density. For example, Ward describes that at logic block 312 (of computer-display system 100 of Figure 1) the apparatus detects whether the resolution produced by the system flat panel display controller is the same as the native flat panel display resolution, if the resolution is the same then the system bypasses the scaling logic and sends the information to the display in its original form column 5 lines 15-27.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 14, 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward et al. (US 6,670,964).

As to claim 3, Ward describes determining whether the application program is configured for use with a display device having a lower pixel density or a display device having a higher pixel density, as described in the rejection of claims 1 and 2. Ward doesn't describe that the determining step comprises examining a property of the application program to determine a software development kit (SDK) version number against which the application program was compiled and determining whether the application program is configured for use with the display device having the lower pixel density or the display device having the higher pixel density based on the version number.

However, Ward describes that computer-display system 100 of Figure 1 always compares the resolution of the system to the resolution of the display device. If the two resolutions are the same then the video controller leaves the information in its original form, but if the resolutions are different the computer-display system 100 scales the system's resolution appropriately to make it compatible with the display device column 5 lines 15-33. It would have been obvious to one of ordinary skill in the art at the time of

the invention to include in Ward the method of using the SDK version number that the application was compiled with to determine which screen resolution best fits the application program. The advantage of using the version number of the SDK that was used to compile the application program rather requiring the system to provide the necessary resolution information is that the version number is commonly included among all application programs and computer-display system 100 can simply check the version number to decide which resolution best suits the system rather than requiring the system to send the resolution information to the computer-display system 100, which may lead to miscommunication errors and incorrect interpretation of the required resolution.

Regarding claims 4 and 15, Ward describes a method further comprising in response to determining that the application program is configured for use with the display device having the lower pixel density, receiving one or more return parameters from the application programming interface, scaling the return parameters for the lower pixel density display device, and returning the scaled return parameters to the application program. For example, Ward describes the process of scaling all image data as needed before any information is sent from the system to a display device column 5 lines 20-33. In order for the system and display device to effectively communicate using the computer-display system 100 of Figure 1 as a communication means it is inherent that the computer-display system 100 inversely scales all return parameters sent from the application programming interface, or video controller 213 of Figure 18, to the application program, or system. If parameters were scaled for display

but return parameters were not inversely scaled before they were returned to the system then the system would not be able to correctly interpret commands sent from the application programming interface.

Concerning claim 14, Ward describes a method for enabling an application program configured for use with a display device having a lower pixel density to utilize a display device having a higher pixel density, the method comprising: receiving from an application program a call directed toward an application programming interface for performing a screen input or output function, the call including one or more parameters; in response to receiving the call, determining whether the application program is configured for use with the display device having the lower pixel density or the display device having a higher pixel density; in response to determining that the application program is configured for use with the display device having the lower pixel density, scaling the parameters for the higher pixel density display device and calling the application programming interface with the scaled parameters; and calling the application programming interface without scaling the parameters in response to determining that the application program is configured for use with the display device having a higher pixel density, as described in the rejection of claims 1 and 2. Ward doesn't describe that determining whether the application program is configured for use with the display device having the lower pixel density or the display device having the higher pixel density involves examining a property of the application program that specifies a software development kit version (SDK) number against which the application program was compiled.

However, Ward describes that computer-display system 100 of Figure 1 always compares the resolution of the system to the resolution of the display device. If the two resolutions are the same then the video controller leaves the information in its original form, but if the resolutions are different the computer-display system 100 scales the system's resolution appropriately to make it compatible with the display device column 5 lines 15-33. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ward the method of using the SDK version number that the application was compiled with to determine which screen resolution best fits the application program. The advantage of using the version number of the SDK that was used to compile the application program rather requiring the system to provide the necessary resolution information is that the version number is commonly included among all application programs and computer-display system 100 can simply check the version number to decide which resolution best suits the system rather than requiring the system to send the resolution information to the computer-display system 100, which may lead to miscommunication errors and incorrect interpretation of the required resolution.

With regard to claims 18 and 19, Ward describes a computer-controlled apparatus and a computer readable medium having computer-executable instructions stored thereon which, when executed by a computer, will cause the computer to perform the method described in the rejection of claim 1. For example, Ward offers computer-display system 100 of Figure 1, which is a logic circuit, also considered a

computer-controlled apparatus, and comprises a computer readable medium having computer-executable instructions stored thereon.

Claims 5, 6, 11-13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward et al. (US 6,670,964) in view of Millman et al. (US 2005/0052475).

As to claims 5, 6, 11, 16, and 17, Ward describes a computer system and method of converting the resolution of a display to match the ideal resolution of an application program, as described in the rejection of claims 1, 2, and 9. Ward doesn't describe that the application program is designed to operate at the lower pixel density of 96 dots per inch or that the higher pixel density display device has a pixel density of 192 dots per inch.

However, Millman describes a method of improving the viewing of small icons and small text on high resolution displays by scaling the input to the display device. He further describes that it is known in the art that high resolution displays currently being sold can have pixel densities around 200 pixels per inch, which is considered to teach that a high pixel density display device can consist of 192 dots per inch. Millman also describes that typical lower resolution displays have a resolution of 96 pixels per inch paragraph 0004. Therefore applications that are designed to operate with lower pixel density displays are designed to operate with displays that have a resolution of 96 pixels per inch. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ward the high pixel density of 192 dots per inch and the low pixel density of 96 dots per inch, as taught by Millman, in order to follow the

standard conventions of low and high pixel density that are known in the art. The advantage of following these conventions rather than using alternative values for low and high pixel density is that the process of converting an application program from low pixel density to high pixel density before it is displayed can easily be applied to many old programs and new monitors as commonly old programs are designed for monitors with a pixel density of 96 dots per inch and the majority of new monitors have a pixel density of 192 dots per inch.

Regarding claim 12, Ward describes a computer system wherein the translation layer is further operative to receive one or more return parameters from the application programming interface, to scale the return parameters for the lower pixel density display device, and to return the scaled parameters to the application program created for use with a display device having a lower pixel density. For example, Ward describes computer-display system 100, which is considered the translation layer, as determining if the resolution of the system needs to be scaled (at scaler control block 312), and scaling the resolution (at upscale and/or centering logic and buffers block 314) if it is determined that the resolution needs to be scaled column 5 lines 15-33. This inherently means that all return parameters sent from the application programming interface, or video controller 213 of Figure 18, to the application program, or system, are inversely scaled, as the system would not be able to correctly interpret incoming information if it was not appropriately scaled.

Concerning claim 13, Ward describes a computer system that determines whether the application program is configured for use with a display device having a

lower pixel density or a display device having a higher pixel density, as described in the rejection of claim 9. Ward doesn't describe that the determining step comprises examining a property of the application program to determine a software development kit (SDK) version number against which the application program was compiled and determining whether the application program is configured for use with the display device having the lower pixel density or the display device having the higher pixel density based on the version number.

However, Ward describes that computer-display system 100 of Figure 1 always compares the resolution of the system to the resolution of the display device. If the two resolutions are the same then the video controller leaves the information in its original form, but if the resolutions are different the computer-display system 100 scales the system's resolution appropriately to make it compatible with the display device column 5 lines 15-33. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ward the method of using the SDK version number that the application was compiled with to determine which screen resolution best fits the application program. The advantage of using the version number of the SDK that was used to compile the application program rather requiring the system to provide the necessary resolution information is that the version number is commonly included among all application programs and computer-display system 100 can simply check the version number to decide which resolution best suits the system rather than requiring the system to send the resolution information to the computer-display system 100,

which may lead to miscommunication errors and incorrect interpretation of the required resolution.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hatori et al. (US 2003/0076340), Kurumisawa et al. (US 2004/0080516), Karaki et al. (US 5,612,715), Zenda (US 4,990,902), Vouri et al. (US 5,420,605), and Kluck et al. (US 6,388,679) all describe dynamically changing from one screen resolution to another screen resolution as needed to best present a particular application program on a display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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